

Installation and Operating Guide | Warranty

Model Number | DVB312 | DVD Player

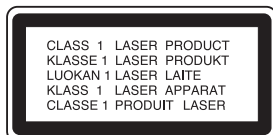




Warning: To reduce the risk of electric shock, do not remove the cover or back of this product. There are no user-serviceable parts inside. Refer servicing to qualified service personnel.



Warning: To reduce the risk of fire or electric shock, do not expose this product to dripping or splashing water, rain, or moisture. Do not place objects filled with water such as vases, on the product.



Warning: This digital video disc player employs a laser system. Use of controls, adjustments, or the performance of procedures other than those specified herein may result in hazardous radiation exposure.



Warning: To prevent direct exposure to laser beam, do not open the enclosure. Visible laser radiation when open.



Warning: Never stare directly into the laser beam.



Caution: Do not install this product in a confined space such as a book case or similar unit.



Caution: To prevent electric shock, match wide blade of plug to wide slot, fully insert.

Attention: Pour éviter les choc électriques, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu'au fond.

FCC WARNING: This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

REGULATORY INFORMATION: FCC Part 15

This product has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the product is operated in a residential installation. This product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or TV reception, which can be determined by turning the product off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the product and receiver.
- Connect the product into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC COMPLIANCE: The responsible party for this product's compliance is: Zenith Electronics Corporation, 2000 Millbrook Drive, Lincolnshire, IL 60069, USA. Phone: 1-847-941-8000

SERIAL NUMBER:

Locate the serial number on the back of the unit. This number is only used on this unit. You should write in requested information below and retain this guide as a permanent record of your purchase.

Model No. DVB312

Serial No. _____

Date of Purchase _____

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Introduction

To ensure proper use of this product, please read this owner's manual carefully and retain for future reference.

This manual provides information on the operation and maintenance of your DVD player. Should the unit require service, contact an authorized service center, see warranty.

Symbols Used in this Manual

 The lightning flash symbol alerts you to the presence of dangerous voltage within the product enclosure that may constitute a risk of electric shock.

 The exclamation point alerts you to the presence of important operating and maintenance / servicing instructions.

 Indicates hazards likely to cause harm to the user, the unit itself, or other material damage.

 **Note:** Indicates special notes and operating features.

 **Tip:** Indicates tips and hints for making the task easier.

A manual section whose title has one of the following symbols is only applicable to the disc represented by the symbol.

-  DVD-Video Discs
-  Audio CDs
-  MP3 Discs
-  WMA Discs
-  JPEG Files

About the Symbol Display

“  ” may appear on your TV display during operation and indicates that the function explained in this owner's manual is not available on that specific DVD video disc.

Notes on Discs

Handling Discs

Do not touch the playback side of the disc. Hold the disc by the edges so that fingerprints do not get on the surface. Never stick paper or tape on the disc.

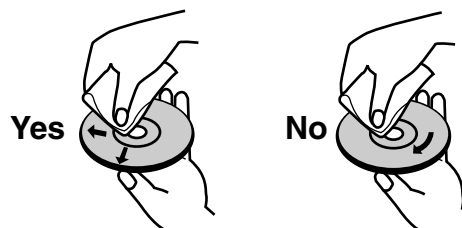


Storing Discs

After playing, store the disc in its case. Do not expose the disc to direct sunlight or sources of heat and never leave it in a parked car exposed to direct sunlight.

Cleaning Discs

Fingerprints and dust on the disc can cause poor picture quality and sound distortion. Before playing, clean the disc with a clean cloth. Wipe the disc from the center out.



Do not use strong solvents such as alcohol, benzene, thinner, commercially available cleaners, or anti-static spray intended for older vinyl records.

Types of Playable Discs



DVD
(8 cm / 12 cm disc)



Audio CD
(8 cm / 12 cm disc)

In addition, this unit plays DVD -R / DVD $\pm$ RW, and CD-R / CD-RW that contains audio titles, MP3, WMA, and/or JPEG files.



Notes

- Depending on the conditions of the recording equipment or the CD-R/RW (or DVD -R/ $\pm$ RW) disc itself, some CD-R/RW (or DVD -R/ $\pm$ RW) discs cannot be played on the unit.
- Do not attach any seal or label to either side (the labeled side or the recorded side) of a disc.
- Do not use irregularly shaped CDs (e.g., heart-shaped or octagonal). The unit may malfunction.



Notes on DVDs

- Some playback operations of DVDs may be intentionally programmed by software manufacturers. This unit plays DVDs according to disc content designed by the software manufacturer, therefore some playback features may not be available or other functions may be added.
- Refer to the instructions supplied with each DVD.
- Some DVDs made for business purposes may not be played on the unit.

Regional code

This DVD player is designed and manufactured for playback of region “1” encoded DVD software. This unit can play only DVD discs labeled “1” or “ALL”.



Notes on Regional Codes

- Each region of the world is assigned a DVD region code.
- Most DVD discs have a globe with one or more numbers in it clearly visible on the cover. This number must match your DVD player's regional code or the disc cannot play.
- If you try to play a DVD with a different region code from your player, the message “Check Regional Code” appears on the TV screen.
- Some DVD discs may not have a region code label even though their playback is prohibited by area limits.

Notes on Copyrights:

It is forbidden by law to copy, broadcast, show, broadcast via cable, play in public, or rent copyrighted material without permission. This product features the copy protection function developed by Macrovision. Copy protection signals are recorded on some discs. When recording and playing the pictures of these discs picture noise will appear. This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

Glossary of Disc-related Terms

DVD -R / DVD ±RW

DVD -R are two different standards for recordable DVD drives and discs. This format allows information to be recorded onto the DVD disc only once. DVD +RW and DVD -RW are two standards for re-writable media, meaning the DVD content can be erased and re-recorded. Single-sided discs can hold 4.38 Gigabytes and double-sided discs hold twice as much. There are no dual-layer, single-sided recordable discs.

MPEG

MPEG is an international standard for video and audio compression. Provides for multichannel surround sound coding such as PCM, Dolby Digital, DTS and MPEG audio.

MP3

MP3 is a popular compression format used for digital audio files that yields very high near-CD quality.

WMA

Windows media audio file. A type of coding / decoding developed by Microsoft Corp.

JPEG (Files)

Joint Pictures Expert Group. JPEG is a compressed file format that allows you to save images with no limit on the number of colors.

Title (DVDs only)

A title is generally a distinct section of a DVD disc. For example the main feature could be title 1, a documentary describing how the film was made could be title 2, and cast interviews could be title 3. Each title is assigned a reference number enabling you to locate it easily.

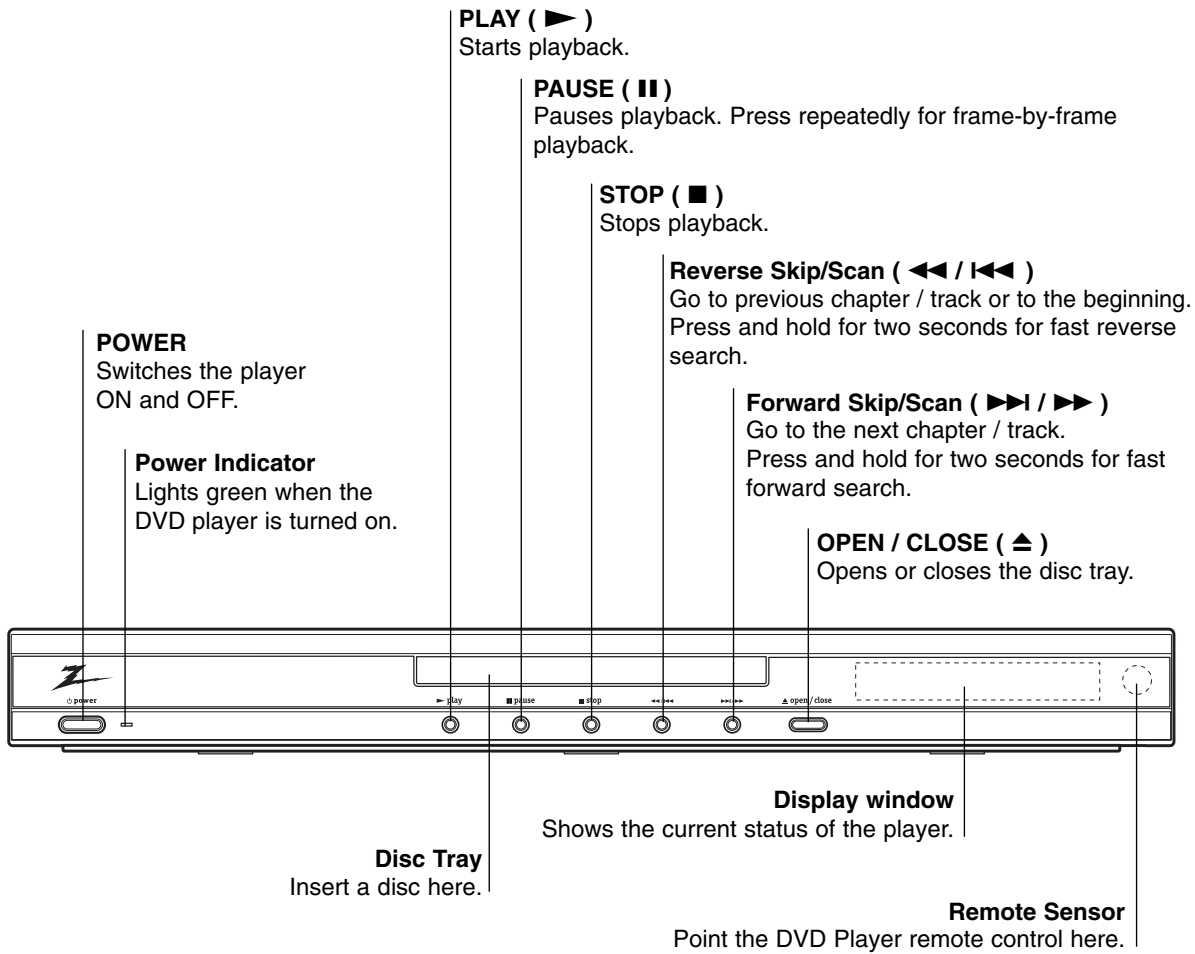
Chapter (DVDs only)

A chapter is a segment of a title such as a scene in a film or one interview in a series. Each chapter is assigned a chapter number, enabling you to locate the chapter you want. Depending on the disc, chapters may not be recorded.

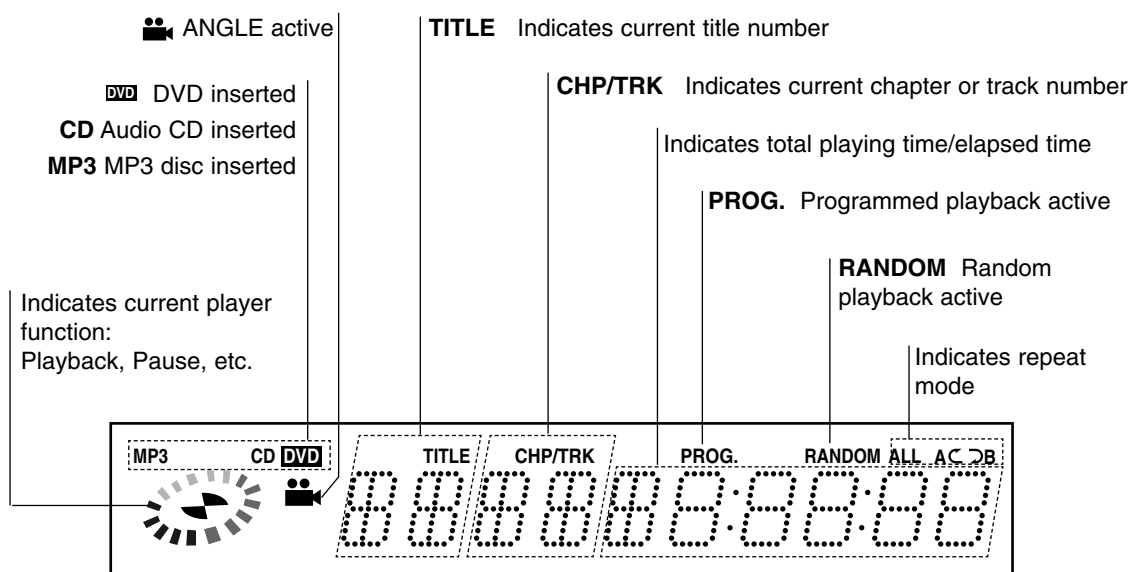
Track

A distinct element of audiovisual information, such as sound track for a specific language (DVD), or a musical piece on an audio CD. Each track is assigned a track number, enabling you to locate the track you want. DVD discs allow one track of video (some with multiple angles) and perhaps several tracks of audio.

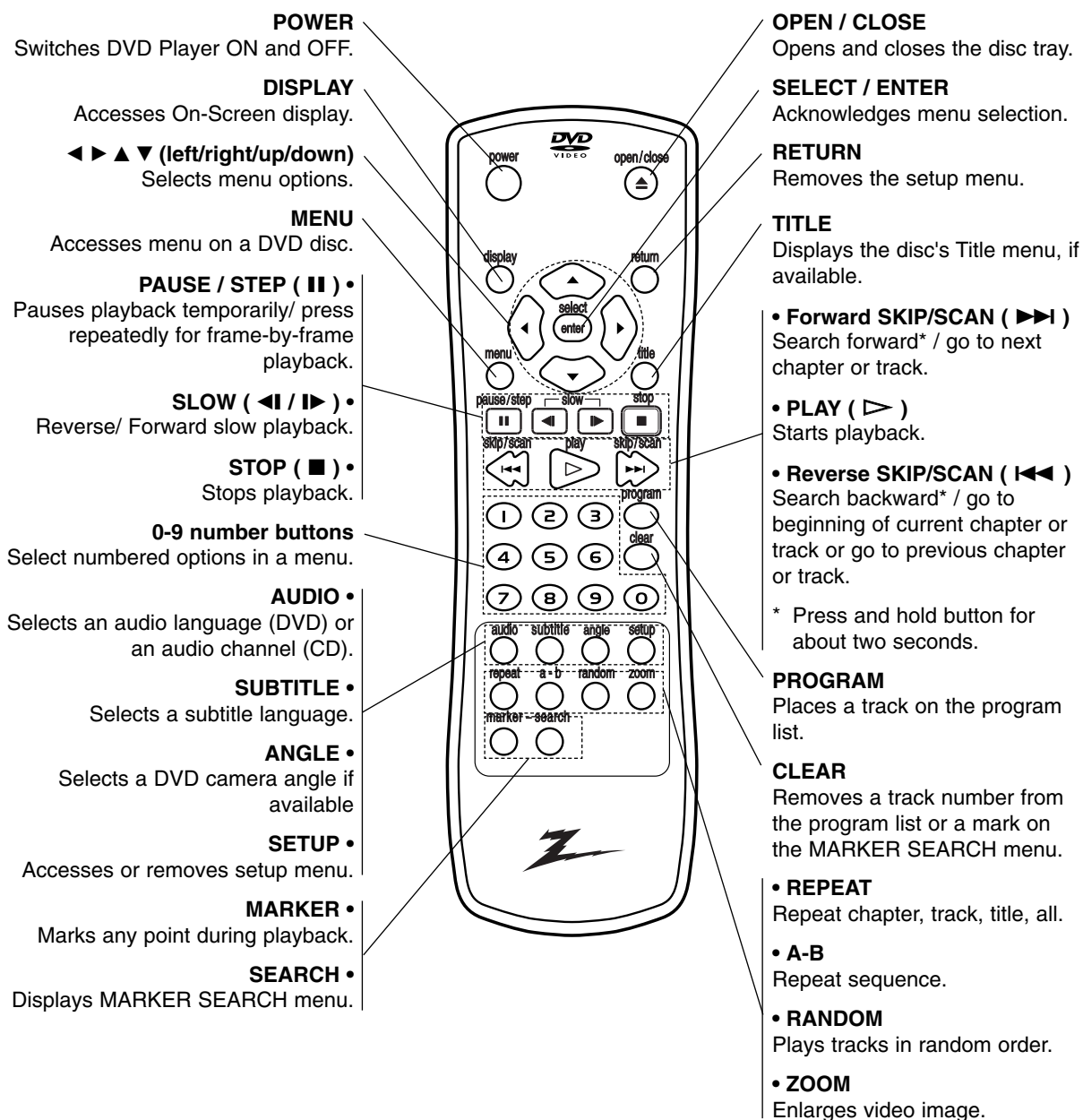
Front Panel



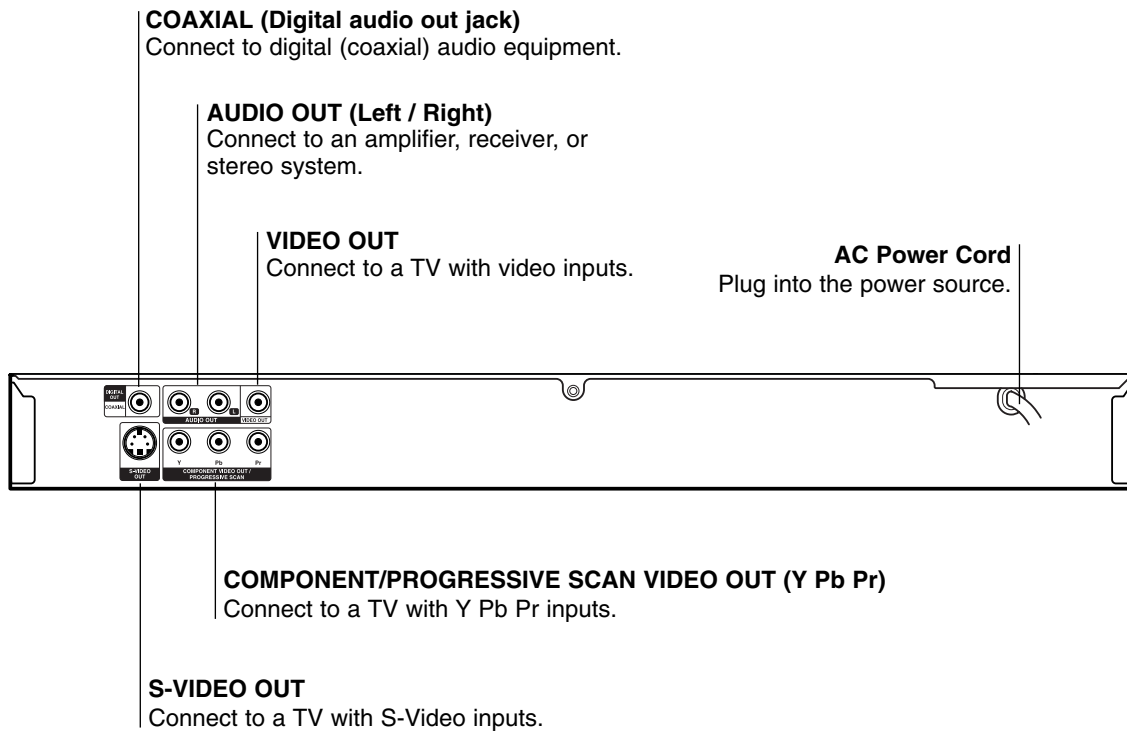
Display Window



Remote Control



Connections Panel

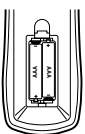


Do not touch the inner pins of the jacks on the rear panel. Electrostatic discharge may cause permanent damage to the unit.

Remote Control Operation

Point the remote control at the remote sensor and press the buttons.

Remote Control Battery Installation



Detach the battery cover on the rear of the remote control, and insert two size AAA batteries with $+$ and $-$ aligned correctly.



Caution:

- Do not mix old and new batteries. Never install different types of batteries such as standard, alkaline, etc.

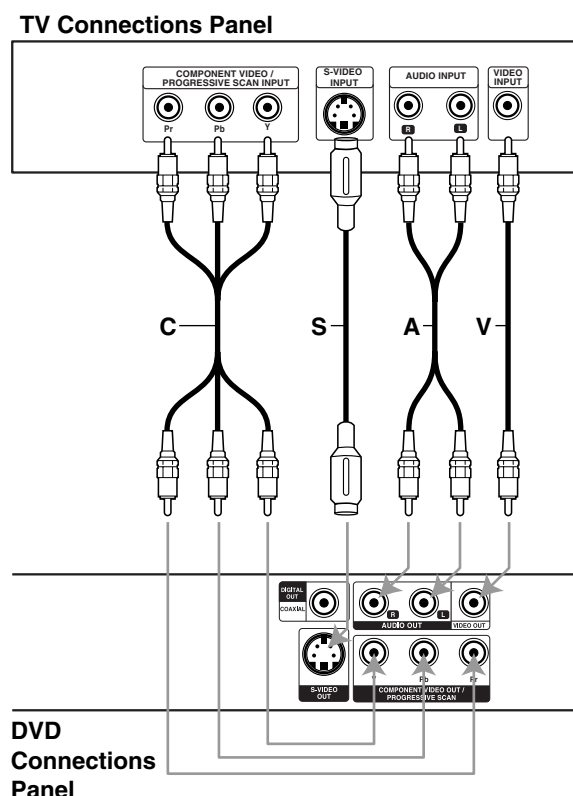
Installation and Setup

Player Setup

The picture and sound of a nearby TV, VCR, or radio may be distorted during playback. If this occurs, position the player away from the TV, VCR, or radio, or turn off the unit after removing the disc.

DVD Player Connections

Depending on your TV and other equipment there are various ways you can connect the player. Please refer to the manuals of your TV, stereo system or other devices as necessary for additional connection information.



Video and Audio Connections to Your TV

Make sure the DVD player is connected directly to the TV and not to a VCR, otherwise the DVD image could be distorted by the copy protection system.

Video: Connect the VIDEO OUT jack from the DVD player to the video in jack on the TV using the video cable (V).

S-Video: Connect the S-VIDEO OUT jack from the DVD player to the S-Video in jack on the TV using the S-Video cable (S).

Component Video (Color Stream®): Connect the COMPONENT VIDEO OUT/ PROGRESSIVE SCAN jacks from the DVD Player to the corresponding in jacks on the TV using an optional Y Pb Pr cable (C).

Progressive Scan (Color Stream® pro): Connect the COMPONENT VIDEO OUT/ PROGRESSIVE SCAN jacks from the DVD Player to the corresponding in jacks on the TV using an Y Pb Pr cable (C).

- If your TV is a high-definition or "digital ready" TV, you may take advantage of the DVD Player's progressive scan output for the highest video resolution possible.
- If your TV does not accept the Progressive Scan format, the picture will appear scrambled if you try Progressive Scan on the DVD Player.

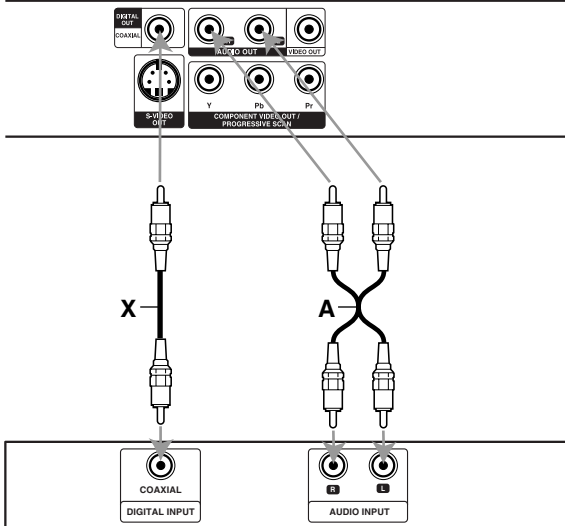
Audio Connection to Your TV:

Connect the left and right AUDIO OUT jacks from the DVD Player to the audio left and right IN jacks on the TV (A) using the audio cables. Do not connect the DVD Player's AUDIO OUT jack to the phono in jack (record deck) on your audio system.

Audio Connections to Optional External Equipment

Connect the DVD player to your optional equipment for audio output.

DVD Connections Panel



Amplifier (Receiver)

Amplifier equipped with 2-channel analog stereo or Dolby Pro Logic II / Pro Logic:

Connect the left and right AUDIO OUT jacks from the DVD player to the audio left and right IN jacks on your amplifier, receiver, or stereo system, using the audio cables (A).

Amplifier equipped with 2-channel digital stereo (PCM) or audio / video receiver equipped with a multi-channel decoder (Dolby Digital™, MPEG 2, or DTS):

Connect one of the DVD Player's DIGITAL AUDIO OUT jacks (COAXIAL X) to the corresponding in jack on your amplifier. Use an optional digital (coaxial X) audio cable.

Digital Multi-channel sound

A digital multi-channel connection provides the best sound quality. For this you need a multi-channel audio / video receiver that supports one or more of the audio formats supported by your DVD player such as MPEG 2, Dolby Digital and DTS. Check the receiver manual and the logos on the front of the receiver.



Notes

- If the audio format of the digital output does not match the capabilities of your receiver, the receiver produces a strong, distorted sound or no sound at all.
- Six Channel Digital Surround Sound via a digital connection can only be obtained if your receiver is equipped with a Digital Multi-channel decoder.
- To see the audio format of the current DVD in the on-screen display, press AUDIO.

On-Screen Display

You can display the general playback status on the TV screen. Some options can be changed using the menu. To use the on-screen display:

1. Press DISPLAY during playback.
2. Use ▲ / ▼ to select a menu option. The selected option is highlighted.
3. Use ◀ / ▶ to change the setting of a menu option. The number buttons can be also be used for setting numbers (e.g., title number). For some functions, press SELECT/ENTER to execute the setting.



Notes

- Some discs may not provide all of the features shown below.
- If no button is pressed for 10 seconds, the on-screen display disappears.

Playback Status/Restrictions

- Title Repeat title
- A - B Repeat sequence
- #1 : 1 / 9 Enter a Marker
- Marker Search menu
- Resume play from this point
- Action prohibited or not available

Example: On-Screen Display during DVD playback

Menu Options	Function / Action (Use ▲ / ▼ to select options)	Selection Method
Title Number 1 / 3	Shows the current title number and total number of titles / skips to the desired title number.	◀ / ▶, Numbers, or SELECT/ENTER
Chapter Number 1 / 12	Shows the current chapter number and total number of chapters / skips to the desired chapter number.	◀ / ▶, Numbers, or SELECT/ENTER
Time search 0:20:09	Shows the elapsed playing time / searches by elapsed time.	Numbers, SELECT/ENTER
Audio language and Digital Audio Output mode 1 ENG Dolby Digital 5.1 CH	Shows the current audio soundtrack language, encoding method, and channel number / changes the setting.	◀ / ▶ or AUDIO
Subtitle language 1 ENG	Shows the current subtitle language / changes the setting.	◀ / ▶ or SUBTITLE
Angle 1 / 3	Shows the current angle number and total number of angles / changes the angle.	◀ / ▶ or ANGLE
Sound 3D SUR	Shows the current sound mode / changes the setting.	◀ / ▶

Pre-operation Setup

By using the Setup menu, you can make various adjustments to menu options for picture and sound. You can also select a language for the subtitles and the Setup menu, among other things. For details on Setup menu options, see pages 13 to 16.

To display and exit the Menu:

Press **SETUP** to display the menu. A second press of **SETUP** will take you back to initial screen.

To go to the next level:

Press **►** on the remote control.

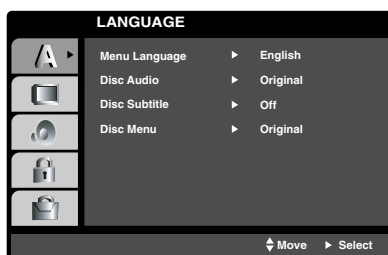
To go back to the previous level:

Press **◀** on the remote control.

General Operation

1. Press **SETUP**. The Setup menu appears.
2. Use **▲** / **▼** to select the desired menu option then press **►** to move to the second level. The screen shows the current setting for the selected menu option, as well as alternate setting(s).
3. Use **▲** / **▼** to select the second desired option then press **►** to move to the third level.
4. Use **▲** / **▼** to select the desired setting then press **SELECT/ENTER** to confirm your selection. Some menu options, require additional steps.
5. Press **SETUP**, **RETURN**, or **PLAY** to remove the Setup menu.

Language Menu



Menu Language

Select a language for the Setup menu and on-screen display.

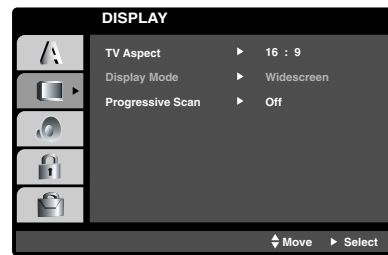
Disc Audio / Subtitle / Menu **DVD**

Select the language you prefer for the audio track (disc audio), subtitles, and the disc menu.

Original: Refers to the original language in which the disc was recorded.

Other: To select another language, press number buttons then **SELECT/ENTER** to enter the corresponding 4-digit number according to the language code list in the reference chapter. If you enter the wrong language code, press **CLEAR**.

Display Menu



Picture Aspect Ratio **DVD**

4:3: Select when a standard 4:3 TV is connected.

16:9: Select when a 16:9 wide TV is connected.

Picture Display Mode **DVD**

Display Mode setting works only when the TV Aspect ratio is set to "4:3".

Letterbox: Displays a wide picture with bands on the upper and lower portions of the screen.

Panscan: Automatically displays the wide picture on the entire screen and cuts off the portions that do not fit.

Progressive Scan **DVD**

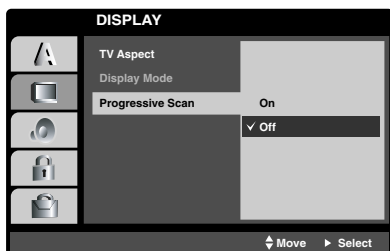
Progressive Scan Video provides the highest quality pictures with less flickering.

If you are using the Component Video jacks for connection to a TV or monitor that is compatible with a progressive scan signal, set Progressive Scan to On.

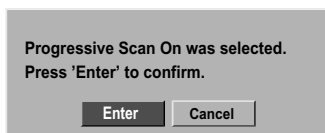
To Turn ON progressive scan:

Connect component out of the DVD to the input of your monitor/television, set your television or monitor to Component Input.

1. Select "Progressive Scan" on the DISPLAY menu then press ►.



2. Select "On" using the ▲ / ▼ buttons.
3. Press SELECT/ENTER to confirm your selection.
If the following image does not appear refer to the following note.



Note: At this point the only video displaying is Component video. If your screen goes to a black screen, your television/display may not be compatible to progressive scan. In this case the player will time out after 10-12 seconds if no other keys are pressed. After the unit times out, the player will automatically return to standard format, and your picture will return.

4. When this image appears on your screen Cancel is highlighted as default. Use the ◀ / ▶ buttons to highlight Enter.
5. Pressing SELECT/ENTER will set the player to Progressive scan mode.

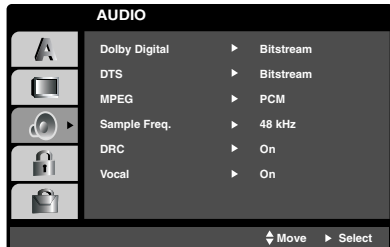


Caution

Once the setting for progressive scan output is entered, an image will only be visible on a progressive scan compatible TV or monitor. If you set Progressive Scan to On in error, you must reset the unit. First, remove the disc in the DVD Player. Next, press STOP (■) again and hold it for five seconds before releasing it. The video output will be restored to the standard setting, and a picture will once again be visible on a conventional analog TV or monitor.

Audio Menu

Each DVD disc has a variety of audio output options. Set the player's AUDIO options according to the type of audio system you use.



Dolby Digital / DTS / MPEG **DVD**

Bitstream: Select "Bitstream" if you connect the DVD Player's DIGITAL OUT jack to an amplifier or other equipment with a Dolby Digital, DTS or MPEG decoder.

PCM (for Dolby Digital / MPEG): Select when connected to a two-channel digital stereo amplifier. DVDs encoded in Dolby Digital or MPEG will be automatically downmixed to two-channel PCM audio.

Off (for DTS): If you select "Off", the DTS signal is not output through the DIGITAL OUT jack.

Sample Freq. (Frequency) **DVD**

If your receiver or amplifier is NOT capable of handling 96 kHz signals, select 48 kHz. When this choice is made, this unit automatically converts any 96 kHz signals to 48 kHz so your system can decode them.

If your receiver or amplifier is capable of handling 96 kHz signals, select 96 kHz. When this choice is made, this unit passes each type of signal through without any further processing.

Check the documentation for your amplifier to verify its capabilities.

Dynamic Range Control (DRC) **DVD**

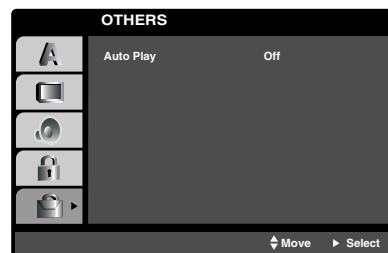
With the DVD format, you can hear a program's soundtrack in the most accurate and realistic presentation possible, thanks to digital audio technology. However, you may wish to compress the dynamic range of the audio output (the difference between the loudest sounds and the quietest ones). This allows you to listen to a movie at a lower volume without losing clarity of sound. Set DRC to On for this effect.

Vocal **DVD**

Set to On only when a multi-channel karaoke DVD is playing. The karaoke channels on the disc mix into normal stereo sound.

Others Menu

The Auto Play settings can be changed.



Auto Play **DVD**

You can set up the DVD Player so a DVD disc automatically starts playing whenever the DVD is inserted.

If Auto Play mode is set to On, this DVD player will search for title that has the longest playback time and then play back the title automatically.

On: Auto Play function active.

Off: Auto Play function is not active.



Note: The Auto Play function may not work for some DVDs.

Lock (Parental Control) Menu



Rating **DVD**

Some movies contain scenes that may not be suitable for children to view. Many of these discs contain parental control information that applies to the complete disc or to certain scenes on the disc. Movies and scenes are rated from 1 to 8, depending on the country. Some discs offer more suitable scenes as an alternative.

The parental control feature allows you to block access to scenes below the rating you specify, thereby preventing your children from being able to view material you believe is unsuitable.

1. Select "Rating" on the LOCK menu then press ►.
2. To access the Rating, Password, and Country Code features, you must key-in the 4-digit security code you created. If you have not yet entered a security code you are prompted to do so.

Key-in a 4-digit code and press SELECT/ENTER. Key it in again and press SELECT/ENTER to verify. If you make a mistake before pressing SELECT/ENTER, press CLEAR.

3. Select a rating from 1 to 8 using the ▲ / ▼ buttons.

Rating 1-8: Rating one (1) has the most restrictions and rating eight (8) is the least restrictive.

Unlock

If you select unlock, parental control is not active and the disc plays in full.



Note: If you set a rating for the player, all disc scenes with the same rating or lower are played. Higher rated scenes

are not played unless an alternate scene is available on the disc. The alternate must have the same rating or a lower one. If no suitable alternate is found, playback stops. You must enter the 4-digit password or change the rating level in order to play the disc.

4. Press SELECT/ENTER to confirm your rating selection, then press SETUP to remove the menu.

Password (Security Code)

You can enter or change password.

1. Select Password on the LOCK menu then press ►.
2. Follow step 2 as shown left (Rating). "Change" or "New" is highlighted.
3. Enter the new 4-digit code, then press SELECT/ENTER. Key it in again to verify.
4. Press SETUP to remove the menu.

If you forget your Security Code

If you forget your security code you can clear it using the following steps:

1. Press SETUP to display the Setup menu.
2. Input the 6-digit number "210499" and the security code is cleared.
3. Enter a new code as described above.

Country Code **DVD**

Enter the code of the country/area whose standards were used to rate the DVD video disc, based on the list in the reference chapter.

1. Select "Country Code" on the LOCK menu then press ►.
2. Follow step 2 as shown left (Rating).
3. Select the first character using ▲ / ▼ buttons.
4. Shift the cursor using ► button and select the second character using ▲ / ▼ buttons.
5. Press SELECT/ENTER to confirm your country code selection.

Operation

DVD Playback

Playback Setup

1. Turn on the TV and select the video input source connected to the DVD player.
2. Turn on the audio system (if applicable) and select the input source connected to the DVD player.
3. Press OPEN/CLOSE to open the disc tray and load your chosen disc in the tray, with the playback side down.
4. Press OPEN/CLOSE to close the tray. Playback starts automatically. If playback does not start, press PLAY.

In some cases, the disc menu might appear instead:

DVD

Use the ◀ ▶ ▲ ▼ buttons to select the title/chapter you want to view, then press SELECT/ENTER to start. Press TITLE or MENU to return to the menu screen.



Notes

- If parental control is set and the disc is not within the rating settings you must input the password. (See “Lock Menu” on page 16.)
- DVDs may have a region code. Your player does not play discs that have a region code different from your player. The region code for this player is 1 (one).

General Features



Note: Unless stated otherwise, all operations described use the remote control. Some features may also be available on the Setup menu.

Screen Saver

The screen saver appears when you leave the DVD player in Stop mode for about five minutes. If the Screen Saver is displayed for five minutes, the DVD Player automatically turns itself off.

Video Mode Setting **DVD**

With certain discs, the playback picture may be flickering or Dot Crawl is shown on straight lines. That means Vertical interpolation or De-interlace is not perfectly matched with the disc. In this case, the picture quality may be improved by changing the video mode.

To change the video mode, press and hold DISPLAY about 3 seconds during disc playback. The new video mode indicator appears on the TV screen. Check whether the video quality has improved. If not, repeat the above procedure until picture quality is improved.

Video mode sequence: Auto → Film → Video
If you turn off the power, the video mode will return to initial default state (Auto).

Auto: The source material of the DVD video (film material or video material) is determined from disc information.

Film: Suitable for playing film based content or video based material recorded by the progressive scan method.

Video: Suitable for playing video based content with comparatively little motion.

Changing TITLES **DVD**

When a disc has more than one title, you can move to another title. In Stop mode, press DISPLAY then the appropriate number (0-9) or use ◀ / ▶ to move to another title. You can play any title by inputting its number while playback has stopped.

Changing CHAPTERs **DVD**

When a title on a disc has more than one chapter, you can move to another chapter as follows:

- Press SKIP/SCAN **⏮** or **⏭** during playback to select the next chapter or to return to the beginning of the current chapter.
- Press SKIP/SCAN **⏮** twice briefly to go back to the previous chapter.
- To go directly to any chapter during DVD playback, press DISPLAY and use **▲** / **▼** to select the chapter icon. Then, key in the chapter number or use **◀** / **▶**.

Search **DVD**

1. Press and hold SKIP/SCAN **⏮** or **⏭** for about two seconds during playback .
2. Press and hold SKIP/SCAN **⏮** or **⏭** repeatedly to select the required speed; X2, X4, X16 or X100
3. To exit SEARCH mode, press PLAY.

Still Picture and Frame-by-Frame Playback **DVD**

1. Press PAUSE/STEP on the remote control during playback.
2. Advance the picture frame-by-frame by pressing PAUSE/STEP repeatedly.
3. To exit still motion mode, press PLAY.

Slow Motion **DVD**

1. Press SLOW (**⏮** or **⏭**) during playback.
2. Use SLOW (**⏮** or **⏭**) to select the required speed: 1/16, 1/8, 1/4 or 1/2 backward or forward.
3. To exit slow motion mode, press PLAY.

Repeat **DVD**

You can play a title/chapter on a disc.

Press REPEAT during playback to select a desired repeat mode.

DVD Video Discs - Repeat Chapter/Title/Off

- Chapter: repeats the current chapter.
- Title: repeats the current title.
- Off : does not play repeatedly.



Note: If you press SKIP (**⏭**) once during Repeat Chapter playback, the repeat playback stops.

Repeat A-B **DVD**

To repeat a sequence.

1. Press A-B at your chosen starting point. "A -" appears briefly on the TV screen.
2. Press A-B again at your chosen end point. "A - B" appears briefly on the TV screen and the repeat sequence begins.
3. Press A-B again to cancel.

3D Surround **DVD**

Produces a 3D surround effect that simulates multi-channel audio from two stereo speakers (instead of the five+ speakers normally required for multi-channel audio from a home theater system).

1. Press DISPLAY during playback.
2. Use **▲** / **▼** to select the sound icon then use **◀** / **▶** to select "3D SUR".
3. To turn off the 3D surround effect, select "Normal".

Time Search **DVD**

To start playing at any chosen time on the disc:

1. Press DISPLAY during playback. The on-screen display appears. The time search box shows the elapsed playing time.
2. Within 10 seconds, use **▲** / **▼** to select the time clock icon and ":-:--" appears.
3. Input the required start time in hours, minutes, and seconds from left to right. If you enter the wrong numbers, press CLEAR to remove the numbers you entered. Then input the correct numbers.
4. Press SELECT/ENTER to confirm. Playback starts from the selected time. If you enter an invalid time, playback continues from the current point.

Zoom **DVD**

Use zoom to enlarge the video image.

1. Press ZOOM during playback or still playback to activate the Zoom function. The square frame appears briefly in the right bottom of the picture.
2. Each press of the ZOOM button changes the TV screen in the sequence: 400% size → 1600% size → multi zoom mode → normal size
3. Use the ◀ ▶ ▲ ▼ buttons to move through the zoomed picture (400% or 1600%), or to enlarge or reduce the picture size through the multi zoom mode.
4. To resume normal playback, press CLEAR to return to the normal picture appears.



Note: Zoom may not work on some DVDs.

Marker Search **DVD**

To enter a Marker

You can start playback from up to nine memorized points. To enter a marker, press MARKER at the desired point on the disc. The Marker icon appears on the TV screen briefly. Repeat to enter up to nine markers.

To Recall or Clear a Marked Scene

1. During disc playback, press SEARCH. The marker search menu appears on the screen.
2. Within 10 seconds, use ◀ / ▶ to select a marker number that you want to recall or clear.
3. Press SELECT/ENTER and playback starts from the marked scene. Or, Press CLEAR and the marker number is erased from the list.
4. You can play any marker by keying in its number on the marker search menu.

Special DVD Features

Checking the contents of DVD discs: Menus

DVDs may offer menus that allow you to access special features. To use the disc menu, press MENU. Input the corresponding number or use the ◀ ▶ ▲ ▼ buttons to highlight your selection. Then press SELECT/ENTER.

Title Menu **DVD**

1. Press TITLE. If the current title has a menu, the menu appears on the screen. Otherwise, the disc menu may appear.
2. The menu may offer features such as camera angles, spoken language and subtitle options, and chapters for the title.
3. Press TITLE to exit.

Disc Menu **DVD**

Press MENU and the disc menu is displayed. Press MENU again to exit.

Camera Angles **DVD**

If the disc contains scenes recorded at different camera angles, you can change to a different camera angle during playback. Press ANGLE repeatedly during playback to select a desired angle. Note that the number of the current angle appears on the display.



Tip: The angle indicator will blink on the display window during scenes recorded at different angles as an indication that angle switching is possible.

Changing the Audio Language **DVD**

Press AUDIO repeatedly during playback to hear a different audio language or audio track.

Subtitles **DVD**

Press SUBTITLE repeatedly during playback to see the different subtitle languages.



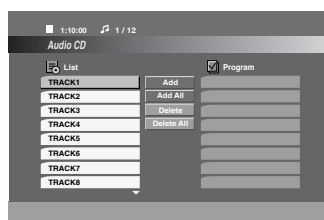
Note: If Ⓢ appears, the feature is not available on the disc.

Playing Audio CDs or MP3/WMA Discs

The DVD player can play MP3/WMA formatted recordings on CD-ROM, CD-R, or CD-RW discs.

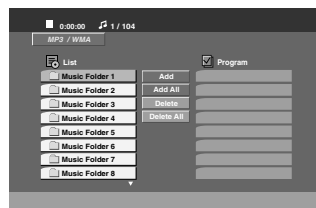
Audio CD

Once you load an audio CD a menu appears on the TV screen. Use ▲ / ▼ to select a track then press PLAY or SELECT/ENTER and playback starts.



MP3 / WMA

1. Use ▲ / ▼ to select a folder, and press SELECT/ENTER to see the folder contents.
2. Use ▲ / ▼ to select a track then press PLAY or SELECT/ENTER. Playback starts.



Tips:

- If you are in a file list on the MP3/WMA menu and want to return to the Folder list, use the ▲ / ▼ to highlight  and press SELECT/ENTER.
- Press and hold ▼ / ▲ to go to the next / previous page.
- On a CD with MP3/WMA and JPEG files, you can switch MP3/WMA and JPEG menus. Press TITLE and MP3/WMA or JPEG word on top of the menu is highlighted. Then, use ◀ / ▶ to select MP3/WMA or JPEG then press SELECT/ENTER.

MP3 / WMA disc compatibility with this player is limited as follows:

- Sampling frequency: within 8 - 48kHz (MP3), within 22 - 48kHz (WMA)
- Bit rate: within 32 - 320kbps (MP3), 40 - 192kbps (WMA)
- The player cannot read an MP3/WMA file that has a file extension other than “.mp3” / “.wma”.
- CD-R physical format should be ISO 9660
- If you record MP3 / WMA files using software that cannot create a file system (eg. Direct-CD) it is impossible to playback MP3 / WMA files. We recommend that you use Easy-CD Creator, which creates an ISO 9660 file system.
- File names should have a maximum of 8 letters and must incorporate an .mp3 or .wma extension.
- They should not contain special letters such as / ? * : “ < > | etc.
- The total number of files on the disc should be less than 999.

This DVD player requires discs and recordings to meet certain technical standards in order to achieve optimal playback quality. Pre-recorded DVDs are automatically set to these standards. There are many different types of recordable disc formats (including CD-R containing MP3 or WMA files) and these require certain pre-existing conditions (see above) to ensure compatible playback.

Customers should note that permission is required in order to download MP3 / WMA files and music from the Internet. Our company has no right to grant such permission. Permission should always be sought from the copyright owner.

Playing Audio CDs or MP3 / WMA Discs Features

Pause **CD** **MP3** **WMA**

1. Press PAUSE/STEP during playback.
2. To return to playback, press PLAY or press PAUSE/STEP again.

Changing Tracks **CD** **MP3** **WMA**

1. Press SKIP/SCAN (I◀◀ or ▶▶I) briefly during playback to go to the next track or to return to the beginning of the current track.
2. Press SKIP/SCAN I◀◀ twice briefly to go back to the previous track.
3. You can play any track by inputting its number.

Repeat Track/All/Off **CD** **MP3** **WMA**

You can play a track/all on a disc.

1. Press REPEAT when playing a disc. The repeat icon appears.
2. Press REPEAT to select a desired repeat mode.
 - Track: repeats the current track
 - All: repeats all the tracks on a disc.
 - Off (no display): does not play repeatedly.



Note: If you press SKIP (▶▶I) once during Repeat Track playback, the repeat playback is canceled.

Search **CD** **MP3** **WMA**

1. Press and hold SKIP/SCAN (I◀◀ or ▶▶I) for about two seconds during playback.
2. Press SKIP/SCAN (I◀◀ or ▶▶I) repeatedly to select the required speed: X2, X4, X8 backward or forward.
3. To exit SEARCH mode, press PLAY.

Random **CD** **MP3** **WMA**

1. Press RANDOM during playback. Random Playback begins immediately and RANDOM appears on the display window and menu screen.
2. To return to normal playback, press RANDOM repeatedly until RANDOM disappears from the display window.



Tip: By pressing SKIP/SCAN ▶▶I during random playback, the unit selects another track and resumes random playback.

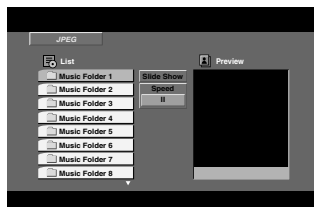
Repeat A-B **CD**

1. To repeat a sequence during disc playback, press A-B at your chosen starting point. The Repeat icon and "A" appear on the menu screen.
2. Press A-B again at your chosen end point. The Repeat icon and "A-B" appear on the menu screen, and the sequence begins to play repeatedly.
3. To exit the sequence and return to normal play, press A-B again. The Repeat icon disappears from the menu screen.

Viewing JPEG Files on a Disc

Using this DVD Player you can view discs with JPEG files.

1. Insert a disc and close the tray. The JPEG menu appears on the TV screen.



2. Use ▲ / ▼ to select a folder, and press SELECT/ENTER. A list of files in the folder appears. If you are in a file list and want to return to the Folder list, use the ▲ / ▼ buttons on the remote to highlight  and press SELECT/ENTER.
3. If you want to view a particular file, use ▲ / ▼ to highlight a file and press SELECT/ENTER or PLAY. Slide Show starts from the selected file if Speed option is turned on.
While viewing a file, you can press RETURN to return to the previous menu (JPEG menu).



Tips:

- Press and hold ▼ / ▲ to go to the next / previous page.
- There are four Slide Speed options: >>> (Fast), >> (Normal), > (Slow) and II (Off).
Use ▲ ▼ ◀ ▶ to highlight the Speed. Then, use ◀ / ▶ to select the option you want to use and press SELECT/ENTER.
- If you set Speed option to Off, Slide Show is not available.

Slide Show **JPEG**

Use ▲ ▼ ◀ ▶ to highlight the Slide Show then press SELECT/ENTER.

Changing Files **JPEG**

Press SKIP/SCAN (◀◀ or ▶▶) once while viewing a picture to advance to the next or previous file.

Still Picture **JPEG**

1. Press PAUSE/STEP during slide show. The player will now go into PAUSE mode.
2. To return to the slide show, press PLAY or press PAUSE/STEP again.

JPEG disc compatibility with this player is limited as follows:

- Depending upon the size and number of JPEG files, it may take a long time for the DVD player to read the disc's contents. If you don't see an on-screen display after several minutes, some of the files may be too large — reduce the resolution of the JPEG files to less than 3760 x 3840 pixels and burn another disc.
- The total number of files and folders on the disc should be less than 999.
- Some discs may be incompatible due to a different recording format or the condition of disc.
- Ensure that all the selected files have the ".jpg" extensions when copying into the CD layout.
- If the files have ".jpe" or ".jpeg" extensions, please rename them as ".jpg" file.
- File names without ".jpg" extension will not be able to be read by this DVD player; even though the files are shown as JPEG image files in Windows Explorer.

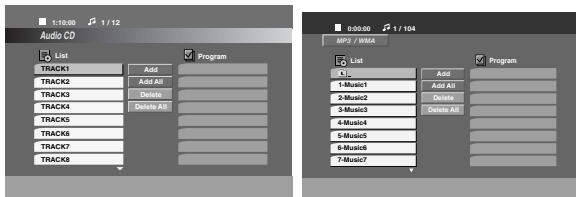
Programmed Playback

The program function enables you to store your favorite tracks from any disc in the player's memory. A program can contain 99 tracks (Audio CD) or 300 tracks (MP3/WMA).

1. Insert a disc.

Audio CD and MP3/WMA Discs:

Audio CD or MP3/WMA menu appears as shown below.



Audio CD Menu

MP3/WMA Menu

2. Select a track from the List.
3. Press PROGRAM. Or, select "Add" icon then SELECT/ENTER to place the selected track on the Program list. Repeat to place additional tracks on the list.

You can add all tracks in the disc. Select "Add All" icon then press SELECT/ENTER.
4. Select the track you want to start playing on the Program list. Press and hold ▲ / ▼ to move to the next / previous page.
5. Press PLAY or SELECT/ENTER to start. Playback begins in the order in which you programmed the tracks and "PROG." appears on the display window. Playback stops after all of the tracks on the Program list have played once.

Repeat Programmed Track/All/Off

You can play a programmed track/all on a disc.

1. Press REPEAT when programmed playing back. The repeat icon appears.
2. Press REPEAT to select a desired repeat mode.
 - Track: repeats the current track.
 - All: repeats all the tracks on the program list.
 - Off (no display): does not play repeatedly.



Note: If you press SKIP (▶▶) once during Repeat Track playback, the repeat playback cancels.

Erasing a Track from Program List

1. Use ▲ ▼ ◀ ▶ to select the track that you wish to erase from the Program list.
2. Press CLEAR. Or, select "Delete" icon then press SELECT/ENTER to place the selected track on the Program list. Repeat to erase additional tracks on the list.

Erasing the Complete Program List

Select "Delete All", then press SELECT/ENTER. The complete Program for the disc is erased.



Note: The programs are also cleared when the disc is removed.

To resume normal playback from programmed playback

Select a track on the List then press SELECT/ENTER.

"PROG." disappears from the display window.

Maintenance and Service

Refer to the information in this chapter before contacting a service technician.

Handling the Unit

When shipping the unit

Please save the original shipping carton and packing materials. If you need to ship the unit, for maximum protection, re-pack the unit as it was originally packed at the factory.

Keeping the exterior surfaces clean

- Do not use volatile liquids such as insecticide spray near the unit.
- Do not leave rubber or plastic products in contact with the unit for a long period of time, since they leave marks on the surface.

Cleaning the unit

To clean the player, use a soft, dry cloth. If the surfaces are extremely dirty, use a soft cloth lightly moistened with a mild detergent solution.

Do not use strong solvents such as alcohol, benzine, or thinner, as these might damage the surface of the unit.

Maintaining the Unit

The DVD player is a high-tech, precision device. If the optical pick-up lens and disc drive parts are dirty or worn, the picture quality could be diminished.

Depending on the operating environment, regular inspection and maintenance are recommended after every 1,000 hours of use.

For details, please contact your nearest authorized service center.

Troubleshooting

Symptom	Possible Cause	Correction
No power.	The power cord is disconnected.	Plug the power cord into the wall outlet securely.
The power is on, but the DVD player does not work.	No disc is inserted.	Insert a disc. (Check that the DVD or audio CD indicator in the display window is lit.)
No picture.	The TV is not set to receive DVD signal output.	Select the appropriate video input mode on the TV.
	The video cable is not connected securely.	Connect the video cable securely.
	The connected TV power is turned off.	Turn on the TV.
No sound.	The equipment connected with the audio cable is not set to receive DVD signal output.	Select the correct input mode of the audio receiver so you can listen to the sound from the DVD player.
	The audio cables are not connected securely.	Connect the audio cable securely.
	The power of the equipment connected with the audio cable is turned off.	Turn on the equipment connected with the audio cable.
	The AUDIO options are set to the wrong position.	Set the Digital Audio Output to the correct position, then turn on the DVD player again by pressing POWER.
The playback picture is poor.	The disc is dirty.	Clean the disc.
The DVD player does not start playback.	No disc is inserted.	Insert a disc. (Check that the DVD or audio CD indicator in the DVD display is lit.)
	An unplayable disc is inserted.	Insert a playable disc. (Check the disc type, color system, and regional code.)
	The disc is placed upside down.	Place the disc with the playback side down.
	The disc is not placed within the guide.	Place the disc on the disc tray correctly inside the guide.
	The disc is dirty.	Clean the disc.
	The rating level is set.	Cancel the rating function or change the rating level.
The remote control does not work properly.	The remote control is not pointed at the remote sensor on the DVD player.	Point the remote control at the remote sensor on the DVD player.
	The remote control is too far from the DVD player.	Operate the remote control closer to the DVD player.
	There is an obstacle in the IR path between the remote control and the DVD player.	Remove the obstacle.
	The batteries in the remote control are exhausted.	Replace the batteries with new ones.

Reference

This chapter includes important reference information to help you set your DVD player.

Language Codes

Use this list to specify a language for the following pre-operation settings: Disc Audio, Disc Subtitle, Disc Menu

Language	Code	Language	Code	Language	Code	Language	Code
Abkhazian	6566	Fiji	7074	Lingala	7678	Singhalese	8373
Afar	6565	Finnish	7073	Lithuanian	7684	Slovak	8375
Afrikaans	6570	French	7082	Macedonian	7775	Slovenian	8376
Albanian	8381	Frisian	7089	Malagasy	7771	Somali	8379
Ameharic	6577	Galician	7176	Malay	7783	Spanish	6983
Arabic	6582	Georgian	7565	Malayalam	7776	Sudanese	8385
Armenian	7289	German	6869	Maltese	7784	Swahili	8387
Assamese	6583	Greek	6976	Maori	7773	Swedish	8386
Aymara	6588	Greenlandic	7576	Marathi	7782	Tagalog	8476
Azerbaijani	6590	Guarani	7178	Moldavian	7779	Tajik	8471
Bashkir	6665	Gujarati	7185	Mongolian	7778	Tamil	8465
Basque	6985	Hausa	7265	Nauru	7865	Tatar	8484
Bengali; Bangla	6678	Hebrew	7387	Nepali	7869	Telugu	8469
Bhutani	6890	Hindi	7273	Norwegian	7879	Thai	8472
Bihari	6672	Hungarian	7285	Oriya	7982	Tibetan	6679
Breton	6682	Icelandic	7383	Panjabi	8065	Tigrinya	8473
Bulgarian	6671	Indonesian	7378	Pashto, Pushto	8083	Tonga	8479
Burmese	7789	Interlingua	7365	Persian	7065	Turkish	8482
Byelorussian	6669	Irish	7165	Polish	8076	Turkmen	8475
Cambodian	7577	Italian	7384	Portuguese	8084	Twi	8487
Catalan	6765	Japanese	7465	Quechua	8185	Ukrainian	8575
Chinese	9072	Javanese	7487	Rhaeto-Romance	8277	Urdu	8582
Corsican	6779	Kannada	7578	Rumanian	8279	Uzbek	8590
Croatian	7282	Kashmiri	7583	Russian	8285	Vietnamese	8673
Czech	6783	Kazakh	7575	Samoan	8377	Volapük	8679
Danish	6865	Kirghiz	7589	Sanskrit	8365	Welsh	6789
Dutch	7876	Korean	7579	Scots Gaelic	7168	Wolof	8779
English	6978	Kurdish	7585	Serbian	8382	Xhosa	8872
Esperanto	6979	Laothian	7679	Serbo-Croatian	8372	Yiddish	7473
Estonian	6984	Latin	7665	Shona	8378	Yoruba	8979
Faroese	7079	Latvian, Lettish	7686	Sindhi	8368	Zulu	9085

Country Codes

Choose a country code from this list.

Country	Code	Country	Code	Country	Code	Country	Code
Afghanistan	AF	Equatorial Guinea	GQ	Macedonia	MK	Saint Vincent & Grenadines	VC
Albania	AL	Eritrea	ER	Madagascar	MG	Samoa	WS
Algeria	DZ	Estonia	EE	Malawi	MW	San Marino	SM
American Samoa	AS	Ethiopia	ET	Malaysia	MY	Saudi Arabia	SA
Andorra	AD	Falkland Islands	FK	Maldives	MV	Senegal	SN
Angola	AO	Faroe Islands	FO	Mali	ML	Seychelles	SC
Anguilla	AI	Fiji	FJ	Malta	MT	Sierra Leone	SL
Antarctica	AQ	Finland	FI	Marshall Islands	MH	Singapore	SG
Antigua and Barbuda	AG	Former Czechoslovakia	CS	Martinique (French)	MQ	Slovak Republic	SK
Argentina	AR	Former USSR	SU	Mauritania	MR	Slovenia	SI
Armenia	AM	France	FR	Mauritius	MU	Solomon Islands	SB
Aruba	AW	France (European Territory)	FX	Mayotte	YT	Somalia	SO
Australia	AU	French Guyana	GF	Mexico	MX	South Africa	ZA
Austria	AT	French Southern Territories	TF	Micronesia	FM	South Korea	KR
Azerbaijan	AZ	Gabon	GA	Moldavia	MD	Spain	ES
Bahamas	BS	Gambia	GM	Monaco	MC	Sri Lanka	LK
Bahrain	BH	Georgia	GE	Mongolia	MN	Sudan	SD
Bangladesh	BD	Germany	DE	Montserrat	MS	Suriname	SR
Barbados	BB	Ghana	GH	Mozambique	MZ	Svalbard and Jan Mayen Islands	SJ
Belarus	BY	Gibraltar	GI	Myanmar	MM	Swaziland	SZ
Belgium	BE	Great Britain	GB	Namibia	NA	Sweden	SE
Belize	BZ	Greece	GR	Nauru	NR	Switzerland	CH
Benin	BJ	Greenland	GL	Nepal	NP	Syria	SY
Bermuda	BM	Grenada	GD	Netherlands	NL	Tadzhikistan	TJ
Bhutan	BT	Guadeloupe (French)	GP	Netherlands Antilles	AN	Taiwan	TW
Bolivia	BO	Guam (USA)	GU	New Caledonia (French)	NC	Tanzania	TZ
Bosnia-Herzegovina	BA	Guatemala	GT	New Zealand	NZ	Thailand	TH
Botswana	BW	Guinea	GN	Nicaragua	NI	Togo	TG
Bouvet Island	BV	Guinea Bissau	GW	Niger	NE	Tokelau	TK
Brazil	BR	Guyana	GY	Nigeria	NG	Tonga	TO
British Indian Ocean Territory	IO	Haiti	HT	Niue	NU	Trinidad and Tobago	TT
Brunei Darussalam	BN	Heard and McDonald Islands	HM	Norfolk Island	NF	Tunisia	TN
Bulgaria	BG	Honduras	HN	North Korea	KP	Turkey	TR
Burkina Faso	BF	Hong Kong	HK	Northern Mariana Islands	MP	Turkmenistan	TM
Burundi	BI	Hungary	HU	Norway	NO	Turks and Caicos Islands	TC
Cambodia	KH	Iceland	IS	Oman	OM	Tuvalu	TV
Cameroon	CM	India	IN	Pakistan	PK	Uganda	UG
Canada	CA	Indonesia	ID	Palau	PW	Ukraine	UA
Cape Verde	CV	Iran	IR	Panama	PA	United Arab Emirates	AE
Cayman Islands	KY	Iraq	IQ	Papua New Guinea	PG	United Kingdom	UK
Central African Republic	CF	Ireland	IE	Paraguay	PY	United States	US
Chad	TD	Israel	IL	Peru	PE	Uruguay	UY
Chile	CL	Italy	IT	Philippines	PH	USA Minor Outlying Islands	UM
China	CN	Ivory Coast	CI	Pitcairn Island	PN	Uzbekistan	UZ
Christmas Island	CX	Jamaica	JM	Poland	PL	Vanuatu	VU
Cocos (Keeling) Islands	CC	Japan	JP	Polynesia (French)	PF	Vatican City State	VA
Colombia	CO	Jordan	JO	Portugal	PT	Venezuela	VE
Comoros	KM	Kazakhstan	KZ	Puerto Rico	PR	Vietnam	VN
Congo	CG	Kenya	KE	Qatar	QA	Virgin Islands (British)	VG
Cook Islands	CK	Kiribati	KI	Reunion (French)	RE	Virgin Islands (USA)	VI
Costa Rica	CR	Kuwait	KW	Romania	RO	Wallis and Futuna Islands	WF
Croatia	HR	Kyrgyzstan	KG	Russian Federation	RU	Western Sahara	EH
Cuba	CU	Laos	LA	Rwanda	RW	Yemen	YE
Cyprus	CY	Latvia	LV	S. Georgia & S. Sandwich Isls.	GS	Yugoslavia	YU
Czech Republic	CZ	Lebanon	LB	Saint Helena	SH	Zaire	ZR
Denmark	DK	Lesotho	LS	Saint Kitts & Nevis Anguilla	KN	Zambia	ZM
Djibouti	DJ	Liberia	LR	Saint Lucia	LC	Zimbabwe	ZW
Dominica	DM	Libya	LY	Saint Pierre and Miquelon	PM		
Dominican Republic	DO	Liechtenstein	LI	Saint Tome and Principe	ST		
East Timor	TP	Lithuania	LT				
Ecuador	EC	Luxembourg	LU				
Egypt	EG	Macau	MO				
El Salvador	SV						

Specifications

General

Power requirements	AC 120 V , 60 Hz
Power consumption	14W
Dimensions (Approx.)	430 x 48 x 242 mm (16.9 x 1.9 x 9.5 inches) (W x H x D)
Weight (Approx.)	2.34 kg (5.2 lbs)
Operating temperature	5 °C to 35 °C (41 °F to 95 °F)
Operating humidity	5 % to 90 %

System

Laser	Semiconductor laser
Signal system	NTSC
Frequency response	DVD (PCM 96 kHz): 8 Hz to 44 kHz DVD (PCM 48 kHz): 8 Hz to 22 kHz CD: 8 Hz to 20 kHz
Signal-to-noise ratio	More than 100 dB (ANALOG OUT connectors only)
Harmonic distortion	Less than 0.008%
Dynamic range	More than 90 dB (DVD/CD)

Outputs

VIDEO OUT	1.0 V (p-p), 75 Ω , negative sync, RCA jack x 1
S-VIDEO OUT	(Y) 1.0 V (p-p), 75 Ω , negative sync, Mini DIN 4-pin x 1 (C) 0.3 V (p-p) 75 Ω
COMPONENT VIDEO OUT	(Y) 1.0 V (p-p), 75 Ω , negative sync, RCA jack x 1 (Pb)/(Pr) 0.7 V (p-p), 75 Ω , RCA jack x 2
Digital Audio output (Coaxial)	0.5 V (p-p), 75 Ω , RCA jack x 1
Analog Audio output	2.0 Vrms (1 kHz, 0 dB), 600 Ω , RCA jack (L, R) x 1

Accessories

S-Video cable	1
Video cable	1
Audio cable	1
Remote control	1
Batteries	2



Note: Design and specifications are subject to change without prior notice.

Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories.

DTS and DTS Digital Out are trademarks of Digital Theater Systems, Inc.

Notes

Reference

Notes



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ZENITH ELECTRONICS CORPORATION DVD PLAYER DVB312 LIMITED WARRANTY - USA

Zenith will repair or replace your product, at Zenith's option, if it proves to be defective in material or workmanship under normal use, during the warranty period ("Warranty Period") listed below, effective from the date ("Date of Purchase") of original consumer purchase of the product. This warranty is good only to the original purchaser of the product and effective only when used in the United States, excluding U.S. Territories.

<u>WARRANTY PERIOD:</u>	<u>HOW SERVICE IS HANDLED:</u>
LABOR: 90 DAYS from the Date of Purchase.	Call 1-800-984-9349 for instructions on getting the defective unit repaired or replaced.
PARTS: ONE YEAR from the Date of Purchase.	Please retain dated sales receipt and your box to return the unit to Zenith for repair or replacement.
Repaired or Replacement Unit is warranted for the remaining period of the original warranty.	Both ways shipping charges will be borne by Zenith during the Warranty Period. After the Warranty Period, you pay in-bound shipping charges and Zenith pays return shipping charges.

THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT ANY IMPLIED WARRANTY IS REQUIRED BY LAW, IT IS LIMITED IN DURATION TO THE EXPRESS WARRANTY PERIOD ABOVE. ZENITH WILL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INDIRECT, OR INCIDENTAL DAMAGES OF ANY KIND, INCLUDING LOST REVENUES OR PROFITS, IN CONNECTION WITH THE PRODUCT. SOME STATES DO NOT ALLOW LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS OR THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

THIS LIMITED WARRANTY DOES NOT APPLY TO:

1. Damages or operating problems that result from shipping, installation, adjustment of user controls, calibration, maintenance or failure to maintain, or separate system components; and
2. Damages or operating problems that result from normal wear and tear, misuse, abuse, operation outside environmental specifications or contrary to the requirements or precautions in the Operating Guide, accident, lightning strikes or other natural causes, unauthorized modification or alteration, incorrect electrical current or voltage, software errors that do not disable functionality, operating software protocols adopted after the date of manufacture or for outside the U.S., institutional or commercial use, or other causes not arising out of defect in material or workmanship.
3. **Therefore, the cost of repair or replacement of such defective product shall be borne by the consumer.**

CUSTOMER INTER-ACTIVE CENTER NUMBERS:

For Warranty Service	Call 1-800-984-9349 (Monday~ Friday, 7 AM ~ 7 PM CT) Retain your dated sales receipt to prove the Date of Purchase as well as your box for shipping the unit to Zenith, for warranty service. Legible copy of your sales receipt must be submitted with the unit at the time the unit is returned for warranty service.
For Post Warranty Repair	For repair or replacement after the Warranty Period has expired, Call 1-800-984-9349 (Monday~ Friday, 7 AM ~ 7 PM CT)
For Where-to buy, Product Assistance, or Customer Assistance	Call 1-877-9Zenith (1-877-993-6484) (Monday~ Friday, 7 AM ~ 8 PM CT and Saturday, 8 AM ~ 5 PM CT) and select appropriate option from the menu. Or visit our website at http://www.zenithservice.com

FOR WARRANTY SERVICE:

You must call **1-800-984-9349** (Monday~ Friday, 7 AM to 8 PM CT) and select appropriate option from the menu to confirm the product is defective and to obtain Return Authorization (RA). During the Warranty Period, Zenith will send you a return-shipping label. After you obtain RA for return, please box your unit with a copy of the sales receipt and enough packing material to ensure undamaged delivery of your product. When you receive the label, place it on the box and call the 800 # in the instruction for pick-up. When your unit is received, Zenith will repair or replace your unit in accordance with this Limited Warranty.

ADVANCE SHIPMENT. If replacement unit is available and you want second day delivery, our service representative will ask for your credit card number. Zenith requires a reserved deposit by credit card as surety for such advance shipment. Your credit card will not be charged if you return the defective unit in 10 business days. For advance shipment, the return label will come with the replacement unit sent to you. Please follow boxing and shipping instructions above.

ZENITH ELECTRONICS CORPORATION
2000 MILLBROOK DRIVE
LINCOLNSHIRE, IL 60069

Zenith Part No. 206-3879-A
GS# 3835RS0066N
Printed in China
Issue A